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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/614,371	07/12/2000	Maximilian Luttrell	PVC-P-99-002	2250

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Patents + TMS
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EXAMINER

NGUYEN, MINH DIEU T

ART UNIT	PAPER NUMBER
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2137

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DATE MAILED: 08/26/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/614,371

Applicant(s)

LUTTRELL ET AL.

Examiner

Minh Dieu Nguyen

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 12 July 2000.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-19 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-4, 6, 10-14, 16 and 19 is/are rejected.
- 7) ☒ Claim(s) 5, 7-9, 15, 17 and 18 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Claims 1-19 are pending.

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. **Claims 1, 10-12, 14 and 19** are rejected under 35 U.S.C. 102(e) as being anticipated by Isnardi, US Patent 6,687,384.

a) **As to claims 1 and 12**, Isnardi discloses a method and apparatus for embedding data in encoded digital bitstreams comprising: providing a compressed bitstream (Fig. 4; col. 7, lines 58-60); identifying locations in the bitstream for embedding data into the bitstream (col. 8, lines 19-21) and replacing original codewords in the bitstream with alternate codewords having embedded data bits (col. 8, lines 21-25).

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b) **As to claim 10**, Isnardi discloses the method wherein the bitstream is compliant with international standards (col. 1, lines 41-52; col. 3, lines 64-67 to col. 4, lines 1-4).

c) **As to claim 11**, Isnardi discloses the method wherein the bitstream is a video bitstream (Fig. 4).

d) **As to claim 14**, Isnardi discloses the system wherein the bitstream has final codewords and wherein locations in the bitstream for embedding data into the bitstream correspond to the final codewords in the bitstream (col. 8, lines 15-67).

e) **As to claim 19**, Isnardi discloses the system wherein the compressed bitstream corresponds to a compressed video bitstream (Fig. 8, element 320).

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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4. **Claims 2-4 and 13** are rejected under 35 U.S.C. 103(a) as being unpatentable over Isnardi, US Patent 6,687,384 in view of Khansari et al., US Patent 6,141,448.

a) **As to claims 2-3 and 13**, Isnardi discloses the compressed MPEG bitstream including MPEG-1 and/or MPEG-2 and/or subsequent MPEG standards (col. 4, lines 3-4), in MPEG-2, the spatial scalability is already standardized.

Khansari discloses compression using spatial and temporal (col. 11, lines 31-43). The slices of the picture are organized into group of blocks before temporal compression is applied to the image data. Spatial and temporal locations need to be located for embedding data bits.

It would have been obvious to one of ordinary skill in the art at the time of the invention to employ the spatial and temporal, as Khansari teaches, in the system of Isnardi, so as to improve scalability, especially spatial and temporal scalability of individual objects in MPEG-4.

b) **As to claim 4**, Khansari discloses error resilience method as error concealment referring to the capability to conceal the effects of transmission errors so that they should be hardly visible in the reconstructed video (col. 6, lines 11-26).

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5. **Claims 6 and 16** are rejected under 35 U.S.C. 103(a) as being unpatentable over Isnardi, US Patent 6,687,384 in view of Zhu, US Patent 5,821,887.

Isnardi does not disclose the original codewords have a triplet form and wherein final codewords have a LAST coefficient = 1.

Zhu discloses H.263 standard employing fixed Huffman tables for encoding what is calls "events" with 3 tuple defined as (LAST, RUN, LEVEL) with the LAST is a nonzero coefficient indication (col. 7, lines 50-56).

It would have been obvious to one of ordinary skill in the art at the time of the invention to employ the triplet form of event, as Zhu teaches, in the system of Isnardi, so as to make efficient usage of memory.

Allowable Subject Matter

6. Claims 5, 7-9, 15, 17-18 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The prior arts of Isnardi, Khansari and Zhu do not disclose the claimed method and system comprising: finding blocks wherein the blocks have a last non-zero coefficient having an index number of less than 63; replacing the final codewords so that the final codewords have a "LAST" coefficient = 0; appending

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alternate codewords, wherein the alternate codewords = "0111s" wherein the "s" corresponds to the embedded data bit, to the final codewords in the bitstream.

Conclusion

7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure

a) US 6,330,672 to Shur discloses method and apparatus for watermarking digital bitstreams.

b) US 6,373,960 to Conover et al. discloses embedding watermarks into compressed video data.

c) US 6,493,457 to Quackenbush et al. discloses electronic watermarking in the compressed domain utilizing perceptual coding.

d) A method of inserting binary data into MPEG bitstreams for video index labeling to Kiya, H. et al., IEEE, US, vol. 4 of 4, Oct. 24, 1999.

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Minh Dieu Nguyen whose telephone number is 703-305-9727. The examiner can normally be reached on M-F 6:00-2:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Andrew Caldwell can be reached on 703-306-3036. The

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fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-305-3900.

Minh Dieu Nguyen
Examiner
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mdn
mdn
8/16/04

Andrew Caldwell
Andrew Caldwell